1 Maximum Permissible Exposure

1.1 Maximum Permissible Exposure

1.1.1 Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/ cm²)**	**Averaging Time |E|²,|H|² or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1,842 / f	4.89 / f	($900 / f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1,500			F/300	6
1,500-100,000			5	6
Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/ cm²)**	**Averaging Time |E|²,|H|² or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500			F/1500	30
1,500-100,000			1.0	30
Note 1: f = frequency in MHz ; *Plane-wave equivalent power density Note 2: For the applicable limit, see FCC 1.1310				

1.1.2 MPE Calculation Method

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$

Power Density: Pd (W/m^2) = $\frac{E^2}{377}$

E = Electric field (V/m)
P = RF output power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $\frac{30 \times P \times G}{377 \times d^2}$

1.1.3 Result of Maximum Permissible Exposure

RF General Information 5150~5250MHz						
Frequency Range (MHz)	**IEEE Std. 802.11 Protocol**	**Ch. Frequency (MHz)**	**Channel Number**	**Number of Transmit Chains (N_{TX})**	**RF Output Power (dBm)**	**Co-location**
5150-5250	a	5180-5240	36-48 [4]	2	20.80	No
5150-5250	n (HT20)	5180-5240	36-48 [4]	1	18.57	No
5150-5250	n (HT20)	5180-5240	36-48 [4]	2	20.83	No
5150-5250	n (HT40)	5190-5230	38-46 [2]	1	18.27	No
5150-5250	n (HT40)	5190-5230	38-46 [2]	2	20.64	No
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.						

RF General Information 5725 MHz – 5850 MHz						
Frequency Range (MHz)	**IEEE Std. 802.11 Protocol**	**Ch. Frequency (MHz)**	**Channel Number**	**Number of Transmit Chains (N_{TX})**	**RF Output Power (dBm)**	**Co-location**
5725-5850	a	5745-5825	149-165 [5]	2	20.50	No
5725-5850	n(HT20)	5745-5825	149-165 [5]	1	17.54	No
5725-5850	n(HT20)	5745-5825	149-165 [5]	2	20.54	No
5725-5850	n(HT40)	5755-5795	151-159 [2]	1	16.87	No
5725-5850	n(HT40)	5755-5795	151-159 [2]	2	18.39	No
Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.						

Worst Maximum RF Output Power Result					
Exposure Environment	General Population / Uncontrolled Exposure				
Separation Distance (cm)	20				
Condition	**RF Output Power (dBm)**				
Modulation Mode	**N_{TX}**	**RF Output Power (dBm)**	**DG (dBi)**	**EIRP Power**	**PD (S) (mW/cm²)**
11N-HT20	2	20.83	3.13	23.96	0.050
11N-HT20	2	20.54	3.13	23.67	0.046
Maximum Permissible Exposure Limit (mW/cm²)					1
Note 1: N_{TX} = Number of Transmit Chains					